Amendment to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-referenced application.

1. (previously presented) A macroscopic scaffold comprising amphiphilic peptides, wherein said peptides have alternating hydrophobic and hydrophilic amino acids, are complementary and structurally compatible, and self-assemble into a beta-sheet macroscopic scaffold; and wherein said macroscopic scaffold is formed by the peptides self-assembling to encapsulate living cells, said cells being present in said macroscopic scaffold in a three-dimensional arrangement.

2. (original) The macroscopic scaffold of claim 1, further encapsulating a therapeutically active compound or chemoattractant.

3. (original) The macroscopic scaffold of claim 1, wherein said peptides comprise an adhesion site, growth factor binding site, growth factor, or sequence that provides targeting to a cell, tissue, organ, organ system, or site within an mammal.

4. (original) The macroscopic scaffold of claim 1, wherein said living cells are neurons and said macroscopic scaffold allows axonal outgrowth by said neurons.

5. (previously presented) The macroscopic scaffold of claim 1, wherein said cells are chondrocytes, bone marrow cells, osteocytes, periosteal cells, perichondrial cells, fibroblasts, neuronal cells, hippocampal cells, epidermal cells, endothelial cells, keratinocytes, basal cells, spinous cells, granular cells, embryonic stem cells, ovarian cells, pancreatic cells, cervical cells, liver cells, or foreskin cells.

6. (original) The macroscopic scaffold of claim 1, wherein said cells secrete extracellular matrix components.

7. (original) The macroscopic scaffold of claim 6, wherein said secretion of extracellular matrix components increases the equilibrium compression modulus of said macroscopic scaffold by at least 50 fold.

8. (previously presented) The macroscopic scaffold of claim 1, wherein at least 60% of the encapsulated cells are in cell-cell contact with another encapsulated cell.

9 – 18. (cancelled)

19. (previously presented) The macroscopic scaffold of claim 1, wherein said cells are chondrocytes.

20. (previously presented) The macroscopic scaffold of claim 1, wherein said amphiphilic peptides comprise multiple KLD subunits.

21. (cancelled) The macroscopic scaffold of claim 1, wherein said scaffold further comprises a biodegradable sealant, glue, or polymer attached to the surface of the macroscopic scaffold.

22. (previously presented) The macroscopic scaffold of claim 6, wherein said secretion of extracellular matrix components increases the strength of said macroscopic scaffold.

23. (previously presented) The macroscopic scaffold of claim 6, wherein said secretion of extracellular matrix components increases the stiffness of said macroscopic scaffold.

24. (previously presented) The macroscopic scaffold of claim 6, wherein said secretion of extracellular matrix components increases the equilibrium compression modulus of said macroscopic scaffold.

25. (cancelled)

26. (cancelled)

27. (previously presented) The macroscopic scaffold of claim 24, wherein said secretion of extracellular matrix components increases the equilibrium compression modulus of said macroscopic scaffold by between 5-fold and 50-fold.

28. (previously presented) The macroscopic scaffold of claim 1, wherein said cells are autologous or allogeneic with respect to a subject.

29. (previously presented) The macroscopic scaffold of claim 1, wherein said macroscopic scaffold is pre-shaped to fit a tissue defect.

30. (previously presented) The macroscopic scaffold of claim 1, wherein said macroscopic scaffold is subjected to static or dynamic compression or a combination thereof.

31. (currently amended) The macroscopic scaffold of claim 1, wherein said ~~cells are present in said~~ macroscopic scaffold is formed from a casting solution containing cells at a concentration of between 0.5 million and 15 million per ml of volume ~~of the macroscopic scaffold~~.

32. (previously presented) The macroscopic scaffold of claim 1, wherein said cells divide after encapsulation within the macroscopic scaffold.